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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/847,567  | 05/02/2001  | Krishna Balachandran | 18-10-25-3-51       | 5619             |
| 7590  | 11/03/2004  |                      | EXAMINER            |                  |
| Docket Administrator (Room 3C-512)<br>Lucent Technologies Inc.<br>600 Mountain Avenue<br>P.O. Box 636<br>Murray Hill, NJ 07974-0636 |             |                      | MOORE JR, MICHAEL J |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2666                |                  |

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |
|------------------------------|------------------------|---------------------|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |
|                              | 09/847,567             | BALACHANDRAN ET AL. |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |
|                              | Michael J. Moore, Jr.  | 2666                |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 02 May 2001.  
 2a) This action is **FINAL**.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-24 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1 and 3 is/are rejected.  
 7) Claim(s) 2 and 4-24 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 02 May 2001 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_

5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Objections***

1. Claims 2 and 4-24 are objected to because of the following informalities:

Regarding claim 2, on lines 4-7, the word “the” before the words “play”, “delay”, “amount”, and “size”, respectively, should be replaced with the word “a”.

Regarding claim 4, on line 2, the word “the” before word “initial” should be “an”.

Also, on line 5, the word “the” before word “number” should be “a”.

Regarding claim 13, on line 8, the phrase “said RLG block of data” should be “said RLC block of data”. Also, on line 13, the word “the” before word “streaming” should be “a”.

Regarding claim 23, on line 8, the phrase “said RLG block of data” should be “said RLC block of data”.

Regarding claim 24, on line 2, the word “transmitting” before word “said” should be “transmits”.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Johansson et al. (U.S. 6,473,399). The Johansson et al. reference teaches all of the limitations of the listed claims with the reasoning that follows.

Regarding claim 1, “a method for a radio link control (RLC) protocol that allows at least partial recovery of a streaming service over a wireless communication channel” is anticipated by the recovery method shown in Figure 6 performed by the components shown in Figure 5. “Determining a play out time for each RLC block as a function of block size, play out rate, and allowed delay for each transmission” is anticipated by the retransmit time (play out time), set in EPC timer 94 of Figure 5, that corresponds to a time that compensates for the round trip propagation delay (allowed delay) of a retransmission request and an initial response, the processing time (play out rate) in the transmitter and receiver, and the frame structure (block size) as spoken of on column 7, lines 23-35. “Aborting recovery for a RLC block if the RLC block is not received by a respective play out time” is anticipated by the errored PDU detection (aborting recovery) by EPC counter 92 and new retransmission request sent requesting the retransmission of the outstanding PDUs as spoken of on column 7, line 64 – column 8, line 4. “Lastly, “receiving and recovering the RLC block that is received by the respective play out time thereof” is anticipated by the correct PDU detection, reception, and processing (receiving and recovering) by EPC counter 92 spoken of on column 7, lines 60-64.

Regarding claim 3, “wherein a receiver receiving RLC blocks acknowledges RLC blocks that are not received by the play out time” is anticipated by the negative

acknowledgement sent to indicate a missing PDU as spoken of on column 7, lines 12-16.

#### ***Allowable Subject Matter***

4. Claims **13-24** are allowable over the prior art of record.
5. Claims **2 and 4-12** are objected to as being dependent upon a rejected base claim, but would be allowable over the prior art of record if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
6. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim **2**, the prior art of record teaches the method of claim **1**. The prior art of record fails to teach where the play out time  $p(n)$  at a receiver is defined by the claimed equation.

Regarding claim **4**, the prior art of record teaches the method of claim **1**. The prior art of record fails to teach an initial transmission of a first plurality of copies of an RLC block, which are derived from the RLC block through different puncturings as well as subsequent retransmissions of a second plurality of copies of the RLC block where the number of copies is chosen to maximize a streaming rate under loss and delay constraints.

Regarding claims **5-12**, these claims further limit claim **4** and are thus also allowable over the prior art of record.

Regarding claim **13**, the prior art of record teaches a method for a radio link (RLC) protocol for at least partial recovery of lost or corrupted data in a streaming based

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service for use in wireless telephony. The prior art of record fails to teach the determining of a maximum number of retransmissions for each RLC block of data from a maximum delivery delay of the service as well as a round trip delay between two wireless stations. The prior art of record also fails to teach an initial transmission of a first plurality of copies of an RLC block, which are derived from the RLC block through different puncturings as well as subsequent retransmissions of a second plurality of copies of the RLC block where the number of copies is chosen to maximize a streaming rate under loss and delay constraints.

Regarding claims **14-22**, these claims are further limiting to claim **13** and are thus also allowable over the prior art of record.

Regarding claim **23**, the prior art of record teaches a system for a radio link (RLC) protocol for at least partial recovery of lost or corrupted data in a streaming based service for use in wireless communication. The prior art of record fails to teach means for determining a maximum number of retransmissions for each RLC block of data from a maximum delivery delay of the service as well as a round trip delay between a base station and a remote station. The prior art of record also fails to teach a first means used for initial transmission of a first plurality of copies of an RLC block, which are derived from the RLC block through different puncturings as well as a second means used for subsequent retransmissions of a second plurality of copies of the RLC block where the number of copies is chosen to maximize a streaming rate under loss and delay constraints.

Regarding claim 24, this claim is further limiting to claim 23 and is thus also allowable over the prior art of record.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Balachandran et al. (U.S. 6,567,375), Forssell et al. (US 2004/0120253), Vanttinien (U.S. 6,601,207), Hwang (U.S. 6,804,202), and Kuusinen et al. (U.S. 6,757,245) are all references that contain material pertinent to this application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Moore, Jr. whose telephone number is (571) 272-3168. The examiner can normally be reached on Monday-Friday (8:30am - 5:00pm). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached at (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mjm MM

  
FRANK DUONG  
PRIMARY EXAMINER

Michael J. Moore, Jr.  
Examiner  
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